In the Claims

Please amend the claims as indicated below. This version of all the pending claims will replace all prior versions.

1. (currently amended) A method for determination of reaction kinetics of surface degradation of a biodegradable polymer comprising the steps of:

providing the biodegradable polymer;

initiating degradation of the polymer to produce degradation products;

at a plurality of time points following initiation of the degradation, subjecting the polymer in which degradation has been initiated to ToF SIMS spectral analysis;

obtaining a molecular weight distribution of the degradation products as a function of time from ToF SIMS spectra;

from the molecular weight distribution, calculating the degree of polymerization of the degradation products as a function of time;

~~identifying and quantifying oligomers at the surface of the polymer from the ToF-SIMS spectra as a function of time;~~ and

calculating the rate of surface degradation of the polymer from the degree of polymerization of the degradation products over time. ~~formation of one or more oligomers at the surface of the polymer, wherein the rate of formation of one or more oligomers is indicative of the rate of degradation of the polymer~~.

2. (original) The method of claim 1 wherein the polymer is selected from the group consisting of polyesters, polyanhydrides, copolymers of polyesters and polyanhydrides and mixtures thereof.

3. (original) The method of claim 2 wherein the polyester is selected from the group consisting of poly(α-hydroxy acids), poly(β-hydroxy acids), poly(α-malic acids), pseudo poly(α-amino acids), copolymers thereof and mixtures thereof.

4. (original) The method of claim 2 wherein the polyanhydride is selected from the group consisting of homo-polyanhydrides of sebacic acid, homo-polyanhydrides of fumaric acid, random co-polyanhydrides of sebacic and fumaric acids, and mixtures thereof.

5. (original) The method of claim 1 wherein the step of initiating degradation comprises solvating the polymer.

6. (canceled)

7. (Original) The method of claim 1 wherein the step of initiating degradation comprises dissociating the polymer.

8. (Original) The method of claim 1 wherein the step of initiating degradation comprises hydrolyzing the polymer.

9. (Original) The method of claim 1 wherein the step of initiating degradation comprises dissolving the polymer.

10. (Original) The method of claim 1 wherein the step of initiating degradation comprises oxidizing the polymer.

11. (Original) The method of claim 1 wherein the step of initiating degradation comprises reducing the polymer.

12. (Original) The method of claim 1 wherein the step of initiating degradation comprises photolysing the polymer.

13. (Canceled)

14. (Canceled)

15. (Canceled)

16. (Canceled)

17. (Canceled)

18. (Original) The method of claim 1 wherein the step of initiating degradation comprises spinodally decomposing the polymer.

19. (Original) The method of claim 8 wherein the step of hydrolyzing comprises contacting the polymer with at least one saline buffer having a pH between about 2.0 and about 12.0, wherein the saline buffer contains an ion selected from the group consisting of phosphate, acetate, carbonate, biphthalate and mixtures thereof.